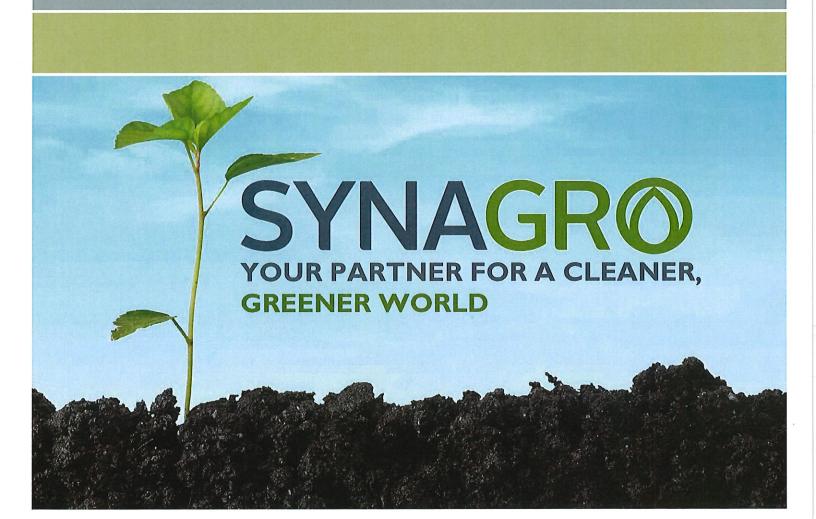
LAND APPLICATION OF BIOSOLIDS BRYAN PEARSON

KW28 (FIELDS 22, 29) KING WILLIAM COUNTY, VIRGINIA APRIL 2020





APRIL 16, 2020

Mr. Neil Zahradka
Department of Environmental Quality
Piedmont Regional Office
4949-A Cox Road
Glen Allen, VA 23060

Dear Mr. Zahradka,

Transmitted herein for your consideration is land application site for Donald Pearson (designated as KW 28, fields 22 and 29), located in King William County, Virginia. This submission contains strictly site specific information. Please refer to the operations and maintenance manual submitted under separate cover for all non-site specific information.

Do not hesitate to contact me at (804) 443-2170 should you have any questions or require additional information.

Sincerely,

Wayne T. Webb Jr.

Technical Services Manager



FIELD SUMMARY SHEET

Donald Pearson

KW28

SYNAGRO			FSA	FIELD	
FIELD	ACRES	ACRES	TRACT	TYPE	OWNER
#			#		
28-22	27.0	27.0	t	Agriculture	Tyree Edward Chappell Jr. Amanda G. Chappell
28-29	48.0	48.0		Agriculture	Donald T. Moren & Margaret T. Trust
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					,
	an .				
				2	·
TOTALS:	75.0	75.0			4/8/2020

VIRGINIA REQUEST AND CONSENT FOR BIOSOLIDS
BUONE 1804 5/79262
ADDRESS: #445 Nelson's Brides, Rd Hanver
ADDRESS: 4445 Nelson's Bridge Rd Harrower
FARM LOCATION:
and the present of th
FSA TRACT #:
TOTAL ACRES: COUNTY: Ling Will &
CROPS:
 l agree to be responsible for adhering to the following conditions, where applicable: a. The soil pH will be adjusted ≥6.0 when biosolids are applied. (This may be accomplished through the application of lime-treated biosolids). b. Do not graze animals on the land for 30 days after the application of biosolids. In addition, animals intended for dairy production should not be allowed to graze on the land or be fed chopped foliage for 60 days after the application of biosolids. Meat-producing livestock should not be fed chopped foliage for 30 days after the application of biosolids. c. Food crops for direct human consumption with harvested parts below the surface of the land shall not be harvested for 14 months after the application of biosolids. d. Food crops for direct human consumption with harvested parts below the surface of the land shall not be harvested for 20 months after the application of biosolids when the biosolids remain on the land surface ≥ 4 months prior to incorporation into the soil or 38 months when the biosolids remain on the land surface < 4 months prior to incorporation. e. Food crops, feed crops and fiber crops shall not be harvested for 30 days after application of biosolids. f. Public access to land with a low potential for public exposure (land the public uses infrequently including but not limited to agricultural land and forests) shall be restricted for 30 days after application of biosolids public access to land with a high potential for public exposure (land the public uses frequently including but not limited to a public contact site such as parks, playgrounds and golf courses) shall be restricted for 1 year. No biosolids-amended soil shall be excavated or removed from the site for 30 days after application to the biosolids application unless adequate provisions are made to prevent public exposure to soils, dusts or aerosols.
OPERATOR'S SIGNATURE DATE

IMPORTANT INFORMATION ABOUT USING BIOSOLIDS AS A FERTILIZER

Biosolids Generation

Biosolids are the accumulated, treated solids separated from water during the treatment of wastewater by public and private wastewater treatment plants (Generators). The Generator is responsible for supplying biosolids that are suitable for land application under state and federal regulations.

Benefits of Biosolids

Biosolids provide nitrogen in a form that can be taken up by plants during their growth cycle. Biosolids also add phosphorus to the soil. If lime is added to biosolids, the biosolids will have the added benefit of a liming agent. Biosolids contain primary, secondary and micronutrients that can be used by plants. Biosolids are primarily an organic material; when added to soil, they improve water and nutrient retention, reduce erosion potential and improve soil structure.

The Permitting Process

Once the farm operator requests biosolids, a Synagro representative initially evaluates the farm for truck access and field conditions. If the farm is found to be suitable and the Request for Biosolids and the Consent for Biosolids forms are signed. Synagro will collect soil samples and have them analyzed by an independent laboratory.

Synagro will then apply for any federal, state or local permits required for biosolids application. The permits will specifically identify the fields to which biosolids will be applied and will be issued to Synagro or the Generator.

After the permits are obtained (a process that may take several months or more) Synagro will apply biosolids, as they become available, to the fields. Availability of biosolids may vary because of weather conditions, contractual arrangements with biosolids generators and other factors. Although the company cannot guarantee biosolids application because of factors beyond its control, Synagro will use its best efforts to apply biosolids to the permitted fields.

The conditions outlined in the permit will apply to any and all biosolids applications made by Synagro. Synagro will not e responsible for biosolids application made by any other entity.

Periodic visits to the land application site(s) by federal, state and local regulatory staff and Synagro representatives may occur for the purpose of permitting the site, inspecting the site, applying biosolids, obtaining samples at the site and testing. Proper identification will be provided upon request.

Agronomic Considerations

Tractor-trailer units are used to deliver biosolids to the fields approved for biosolids applications. Soil compaction may occur on the travel areas used by the trucks and in areas where biosolids are unloaded for transfer to the applicator vehicle.

Since some biosolids contain lime, it is important to recognize any increase in soil pH where biosolids have been applied and exercise care in using certain herbicides. If considering the use of a sulfonylurea herbicide, particular attention should be paid to any label restrictions. High soil pH and dry weather may slow decomposition of these chemicals, resulting in carryover. For soils with low manganese levels, increased soil pH from lime addition (alone or in lime treated biosolids) may reduce manganese availability and thereby potentially reduce crop yields.

In planning a herbicide program, it should be noted that seeds may sometimes survive the biosolids treatment process — for example, tomato seeds. Also, the organic matter additions from biosolids application (organic matter tends to tie up certain herbicides) may require increased herbicide application rates. Consult your extension agent or chemical representative for a specific recommendation.

Biosolids contain salts. Biosolids applications alone rarely cause salt problems. However, if combined with other significant salt-increasing factors, such as drought, excessive soil compaction, saline irrigation water and salt-contain fertilizers, salts may reach levels that could negatively affect germination and growth of some crops.

While odors from biosolids applications are not usually significant, and typically less than that from livestock manure, it is possible that an odor from the decomposition of organic matter may be noticed. It this occurs, it generally disappears in a short time.

Since biosolids provide nitrogen that will be released slowly throughout the growing season with diminishing carryover in subsequent years, it is important to reduce the use of nitrogen and other fertilizers to appropriate levels.

VIRGINIA POLLUTION ABATEMENT PERMIT APPLICATION FORM D: MUNICIPAL EFFLUENT AND BIOSOLIDS

A. This land application agreement is made on between referred to here as "Landowner", and Synagro, referred to here as the "Permittee". This agreement remains in effect until it is terminated in writing by either party or, with respect to those parcels that are retained by the Landowner in the event of a sale of one or more parcels, until ownership of all parcels changes. If ownership of individual parcels identified in this agreement changes, those parcels for which ownership has changed will no longer be authorized to receive biosolids or industrial residuals under this agreement. Landowner: The Landowner is the owner of record of the real property located in King William, Virginia, which includes the agricultural, silvicultural or reclamation sites identified below in Table 1 and identified on the tax map(s)						
attached as Exhibit A. Table 1 : Parcels aut	horized to receive biosolids, w	vater treatment residua	ls or other industrial sludges			
Tax Parcel ID	Tax Parcel ID	Tax Parcel ID	Tax Parcel ID			
	TAX FAICELID	TAX PAICELID	TAXTAICEIID			
18-63 18-03A						
10-(03/1						
Additional parcels containing I an	d Application Sites are Identified on S	Supplement A (check if applic	able)			
,	e Landowner is the sole owne					
Th.	e Landowner is one of multiple	e owners of the propert	ies identified hereln.			
within 38 months of the late 1. Notify the purchase later than the date	In the event that the Landowner sells or transfers all or part of the property to which biosolids have been applied within 38 months of the latest date of biosolids application, the Landowner shall: 1. Notify the purchaser or transferee of the applicable public access and crop management restrictions no later than the date of the property transfer; and 2. Notify the Permittee of the sale within two weeks following property transfer.					
The Landowner has no other agreements for land application on the fields identified herein. The Landowner will notify the Permittee immediately if conditions change such that the fields are no longer available to the Permittee for application or any part of this agreement becomes invalid or the information herein contained becomes incorrect.						
The Landowner hereby grants permission to the Permittee to land apply residuals as specified below, on the agricultural sites identified above and in Exhibit A. The Landowner also grants permission for DEQ staff to conduct inspections on the land identified above, before, during or after land application of permitted residuals for the purpose of determining compliance with regulatory requirements applicable to such application.						
Class B biosolids Wate X Yes □ No X Ye	er treatment residuals Foo s □ No X	od processing waste	<u>Other industrial sludges</u> X Yes □ No			
Time Elimed Cla	WALL TO VALLEY	ME	× 1286 KL Willald			
Landowner - Printed Name, Title Signature Signature Mailing Address Mongain VA 23 KK						
Amanda G. Chappell - × Amande Chappell Permittee:						
Synagro, the Permittee, agrees to apply biosolids and/or industrial residuals on the Landowner's land in the manner authorized by the VPA Permit Regulation and in amounts not to exceed the rates identified in the nutrient management plan prepared for each land application field by a person certified in accordance with §10.1-104.2 of the Code of Virginia.						
The Permittee agrees to notify the Landowner or the Landowner's designee of the proposed schedule for land application and specifically prior to any particular application to the Landowner's land. Notice shall include the source of residuals to be applied.						
I reviewed the document(s) assigning signatory authority to the person signing for landowner above. I will make a copy of this document(s) available to DEQ for review upon request. (Do not check this box if the landowner signs this agreement)						
Permittee – Authorized Representative Printed Name 10647 Tidewater Trail Champlain, VA 22438 Mailing Address						

VIRGINIA POLLUTION ABATEMENT PERMIT APPLICATION: PART D-VI LAND APPLICATION AGREEMENT

Permittee: Synagro	County or City:_	King William
Landowner: Type Eduard Chappell Tr.	- 1	
Amanda G. Chappell Landowner Site Management Requirements	:	

I, the Landowner, I have received a DEQ Biosolids Fact Sheet that includes information regarding regulations governing the land application of biosolids, the components of biosolids and proper handling and land application of biosolids.

I have also been expressly advised by the Permittee that the site management requirements and site access restrictions identified below must be complied with after biosolids have been applied on my property in order to protect public health, and that I am responsible for the implementation of these practices.

I agree to implement the following site management practices at each site under my ownership following the land application of biosolids at the site:

1. Notification Signs: I will not remove any signs posted by the Permittee for the purpose of identifying my field as a biosolids land application site, unless requested by the Permittee, until at least 30 days after land application at that site is completed.

2. Public Access

- a. Public access to land with a high potential for public exposure shall be restricted for at least one year following any application of biosolids.
- b. Public access to land with a low potential for public exposure shall be restricted for at least 30 days following any application of biosolids. No biosolids amended soil shall be excavated or removed from the site during this same period of time unless adequate provisions are made to prevent public exposure to soil, dusts or aerosols;
- c. Turf grown on land where biosolids are applied shall not be harvested for one year after application of biosolids when the harvested turf is placed on either land with a high potential for public exposure or a lawn, unless otherwise specified by DEQ.

3. Crop Restrictions:

- a. Food crops with harvested parts that touch the biosolids/soil mixture and are totally above the land surface shall not be harvested for 14 months after the application of biosolids.
- Food crops with harvested parts below the surface of the land shall not be harvested for 20 months after the application of biosolids when the biosolids remain on the land surface for a time period of four (4) or more months prior to incorporation into the soil,
- Food crops with harvested parts below the surface of the land shall not be harvested for 38 months when the biosolids remain on the land surface for a time period of less than four (4) months prior to incorporation.
- d. Other food crops and fiber crops shall not be harvested for 30 days after the application of biosolids;
- e. Feed crops shall not be harvested for 30 days after the application of biosolids (60 days if fed to lactating dairy animals).

4. Livestock Access Restrictions:

Following biosolids application to pasture or hayland sites:

- a. Meat producing livestock shall not be grazed for 30 days,
- Lactating dairy animals shall not be grazed for a minimum of 60 days.
- Other animals shall be restricted from grazing for 30 days;
- 5. Supplemental commercial fertilizer or manure applications will be coordinated with the biosolids and industrial residuals applications such that the total crop needs for nutrients are not exceeded as identified in the nutrient management plan developed by a person certified in accordance with §10.1-104.2 of the Code of Virginia;
- Tobacco, because it has been shown to accumulate cadmium, should not be grown on the Landowner's land for three years following the application of biosolids or industrial residuals which bear cadmium equal to or exceeding 0.45 pounds/acre (0.5 kilograms/hectare).

Landowner's Signature

's Signature Amanda Chappell Rev 9/14/2042

Page 2 of 2

Donald

VIRGINIA POLLUTION ABATEMENT PERMIT APPLICATION FORM D: MUNICIPAL EFFLUENT AND BIOSOLIDS

PART D-VI: LAND APP	LICATION AGREEMENT	BIOSOLIDS AND INDU	STRIAL RESIDUALS T. Miren & Morgaret T. Trust				
A. This land application agreement is made on							
identified in this agreement	ore parcels, until ownership of changes, those parcels for w strial residuals under this agre	hich ownership has change	nership of individual parcels d will no longer be authorized				
Landowner: The Landowner is the owner the agricultural, silvicultural attached as Exhibit A.	The Landowner is the owner of record of the real property located in the agricultural, silvicultural or reclamation sites identified below in Table 1 and identified on the tax map(s)						
Table 1.: Parcels aut	horized to receive biosolids, v	vater treatment residuals or	other industrial sludges				
Tax Parcel ID	<u>Tax Parcel ID</u>	Tax Parcel ID	<u>Tax Parcel ID</u>				
10-48	2	,					
)							
☐ Additional parcels containing Lan	d Application Sites are identified on S	Supplement A (check if applicable)					
	e Landowner is the sole owne e Landowner is one of multipl						
In the event that the Landowner sells or transfers all or part of the property to which biosolids have been applied within 38 months of the latest date of biosolids application, the Landowner shall: 1. Notify the purchaser or transferee of the applicable public access and crop management restrictions no later than the date of the property transfer; and 2. Notify the Permittee of the sale within two weeks following property transfer.							
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Class B biosolids Water X Yes □ No X Yes		Yes No X	Other industrial sludges (Yes I No 9 Herring Creek Road				
Landowner - Printed Name, Titl Docald T. Moren & Mary			eff, VA Z3009 alling Address				
Permittee: Synagro, the Permittee, agrees to apply biosolids and/or industrial residuals on the Landowner's land in the manner authorized by the VPA Permit Regulation and in amounts not to exceed the rates identified in the nutrient management plan prepared for each land application field by a person certified in accordance with §10.1-104.2 of the Code of Virginia.							
The Permittee agrees to notify the Landowner or the Landowner's designee of the proposed schedule for land application and specifically prior to any particular application to the Landowner's land. Notice shall include the source of residuals to be applied.							
X I reviewed the document(s) assigning signatory authority to the person signing for landowner above. I will make a copy of this							

Permittee – Authorized Representative
Printed Name

Champlain, VA 22438

Signature

Signature

Mailing Address

document(s) available to DEQ for review upon request. (Do not check this box if the landowner signs this agreement)

10647 Tidewater Trail

Permittee: Synagro	County or City:	Kino	William	
Landowner: Dorald T. Moren &	Margarof T. Trust			Name of the last

Landowner Site Management Requirements:

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- c. Other animals shall be restricted from grazing for 30 days;
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- 6. Tobacco, because it has been shown to accumulate cadmium, should not be grown on the Landowner's land for three years following the application of biosolids or industrial residuals which bear cadmium equal to or exceeding 0.45 pounds/acre (0.5 kilograms/hectare).

Margaret J moren

Landowner's Signature

6/le/18

TAX ID LANDOWNER IDENTIFICATION SHEET

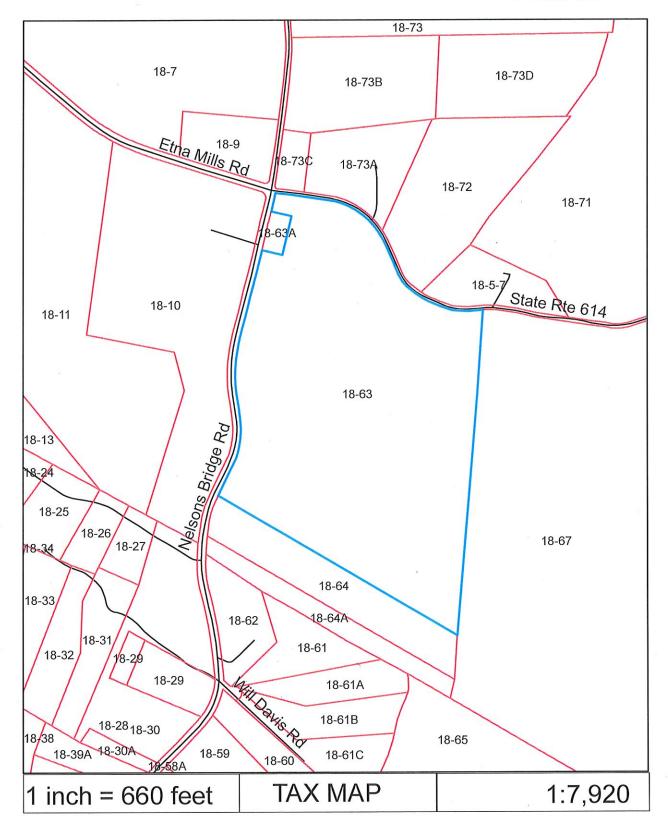
Landowner	Field Number	Tax ID
Tyree Edward & Amanda G	28-22	18-63
Chappell Jr.	20-22	18-63A
Donald T. Moren & Margaret T. Trust	28-29	10-48

Field Number	Latitude (North)	Longitude (West)
28-22	37.761°	-77.266°
28-29	37.815°	-77.295°

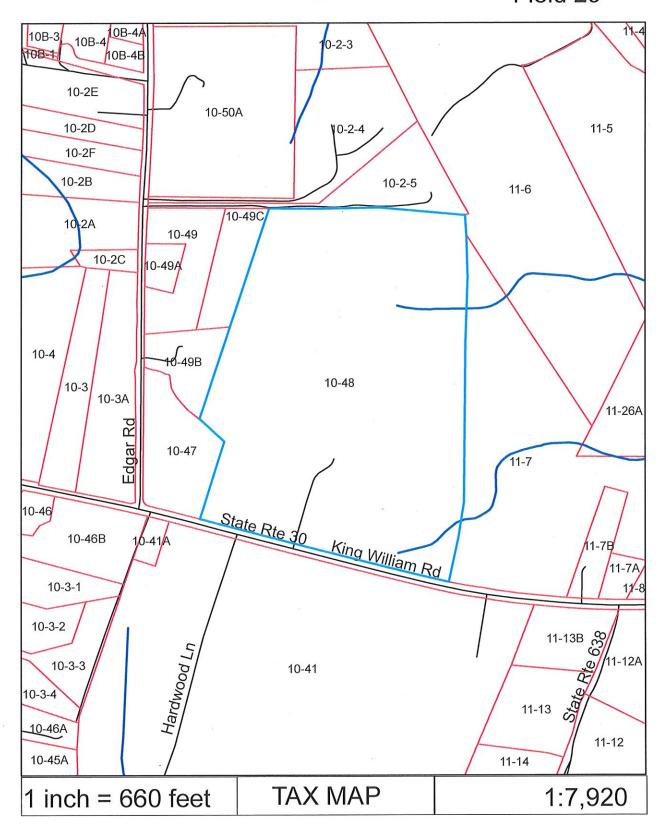
^{*}Latitude and Longitude are a random point determined by ArcView program

Haul Route:

The Location maps in conjunction with the above latitude and longitude coordinates are a route planning tool meant to be a guide to indicate suggested haul routes for various preferences: to include but not limited to all federal, state, and local granted STAA access routes.









Farm Summary Report

Plan: New Plan Spring, 2020 - Spring, 2030

Farm Name: KW-28
Location: King William
Specialist: Wayne T. Webb Jr.

N-based Acres: 27.0 P-based Acres: 48.0

Tract Name: KW28 FSA Number: 0

Location: King William

Field Name: 22

Total Acres: 27.00 Usable Acres: 27.00

FSA Number: 0 Tract: KW28

Location: King William

Slope Class: B Hydrologic Group: C

Riparian buffer width: 0 ft Distance to stream: 0 ft

P-Index Summary

N-based

Phosphorus Limit method: Phosphorus Environmental Threshold (PET) method

Soil Test Results:

DATE PH P K Lab

Fa-2019 6.0 H-(47 P ppm) H(192 K ppm) A&L MIII

Soils:

PERCENT SYMBOL SOIL SERIES
15 2B Bama
46 12A Eunola
34 13B Kempsville
5 26A Slagle

Field Warnings:

Field Name:

29

Total Acres:

48.00 Usable Acres: 48.00

FSA Number: 0 Tract: K

KW28

Α

Location:

King William

Slope Class:

Hydrologic Group:

С

Riparian buffer width: 400 ft Distance to stream: 400 ft

Conservation Practices:

Conservation tillage (>30% residue)

P-Index Summary

P-based(1.5)

Phosphorus Limit method: VA P-Index Calulation

P-Index value = 48.47

Soil Test Results:

DATE

PH

Р

K

Lab

Fa-2019

6.6

VH(130 P ppm)

M(71 K ppm)

A&L MIII

MOST RECENT LIME: Spring-2020 2.9 tons/acre

Soils:

PERCENT

SYMBOL

SOIL SERIES

13

9A Daleville

87

26A Slagle

Field Warnings:

ENVIRONMENTALLY SENSITIVE AREAS

Field	Reason for Sensitive Area
28-22	None
28-29	High Water Table (Map Unit 9A - 13.2%)

King William County Soils that are Environmentally Sensitive

Soil Map Unit	Series Name	Time of year		Environmental
		High Water	Flooded	
3A	Bibb/Kinston	Nov-June	Nov-June	Drainage
44	Bohicket	Nov-June	Nov-June	
5A	Bojac	Jan-Dec		Leaching
6A, 6B	Bojac			Leaching
7A	Catpoint			Leaching
8A	Conetoe			Leaching
9A	Daleville	Nov-May		
14A	Kenansville			Leaching
15A	Lanexa	Jan-Dec	Jan-Dec	Drainage
16A	Mattan	Jan-Dec	Jan-Dec	Drainage
18A	Myatt	Nov-April		
20A	Osier	Nov-March		Drainage
22D, 22F	Remilk/Nevarc			Leaching
23A	Riverview		Dec-March	A 19 19 19 19 19 19 19 19 19 19 19 19 19
24A	Roanoke	Nov-May		
29B, 29D, 29F	Tarboro			Leaching
30A	Tomotley	Nov-April		
32A	Wehadkee	Nov-May	Nov-May	

Map Legend



House/Dwelling with a well

- 200' buffer-dwelling (with conditions for reduction);
- 100' buffer-well



Rock Outcrop

- 25' buffer



Limestone Outcrop / Closed Sinkholes

- 50' buffer



Well/Springs/Open Sinkholes

- 100' buffer



Lake/Pond

- 35' w/vegetative buffer; 100' without vegetative buffer



Slope which exceeds 15%



"PAS" - Publicly Accessible Site

- 200' buffer



Stream/River

- 35' w/vegetative buffer; 100' without vegetative buffer



Agricultural/Drainage Ditch

- 10' buffer

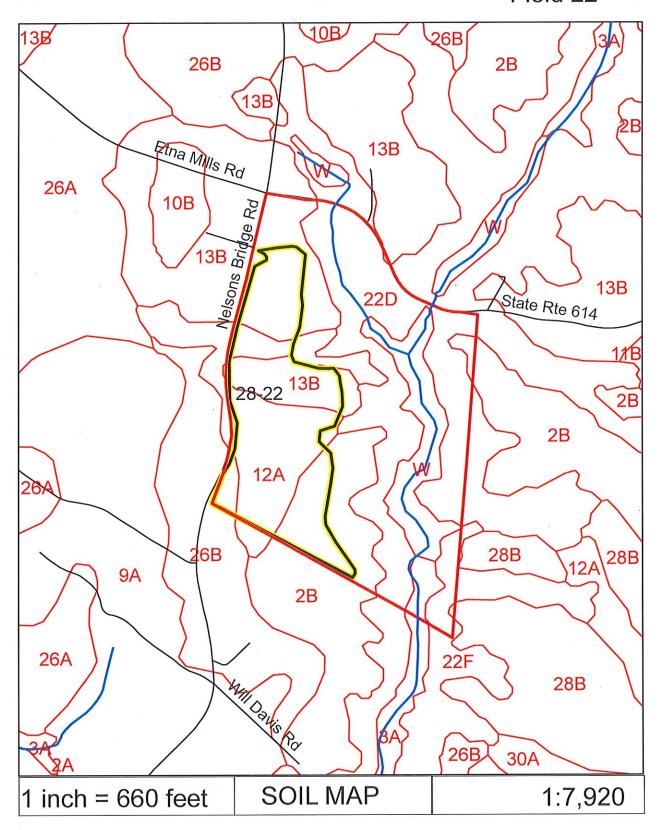


Field Boundary

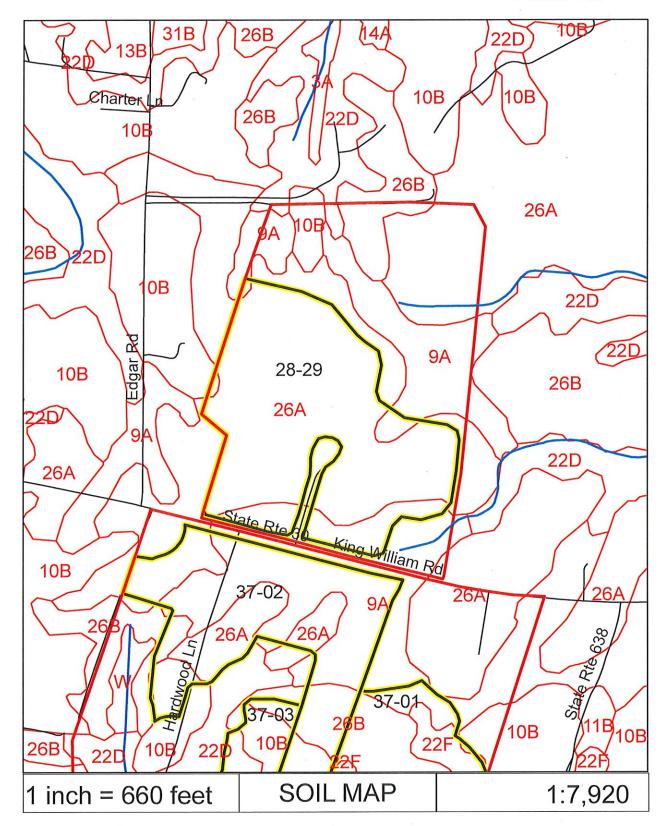
Property Line

- 100' buffer unless waiver issued



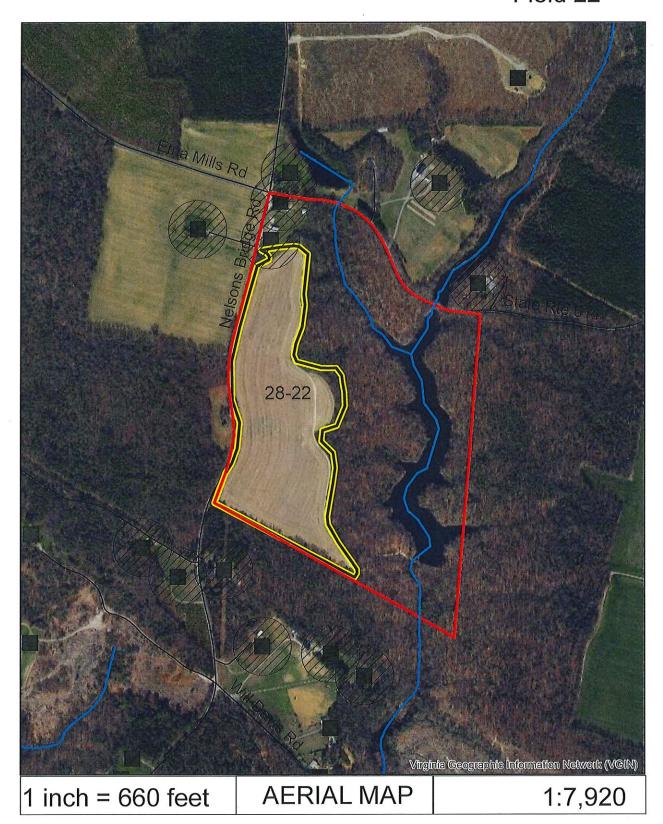












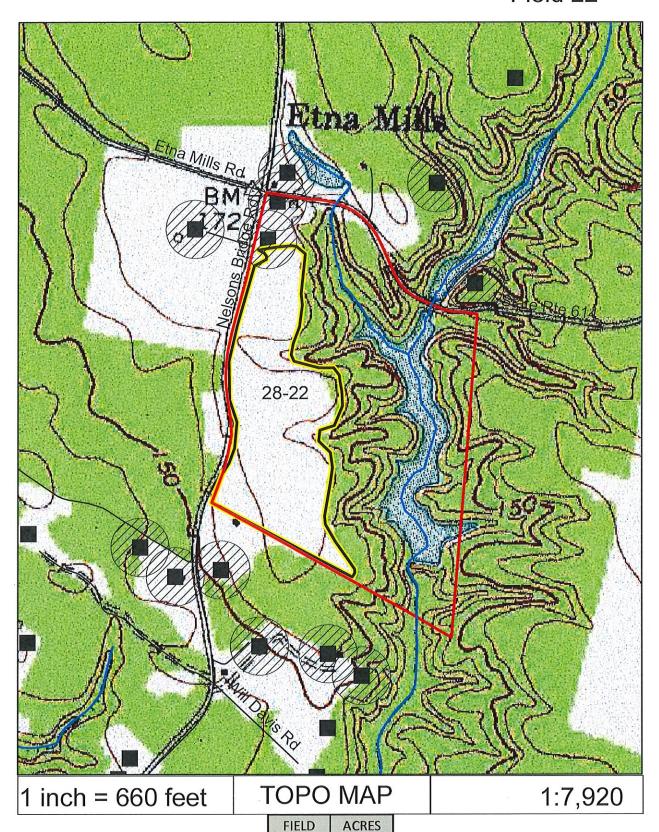








Donald Pearson KW 28 Field 22

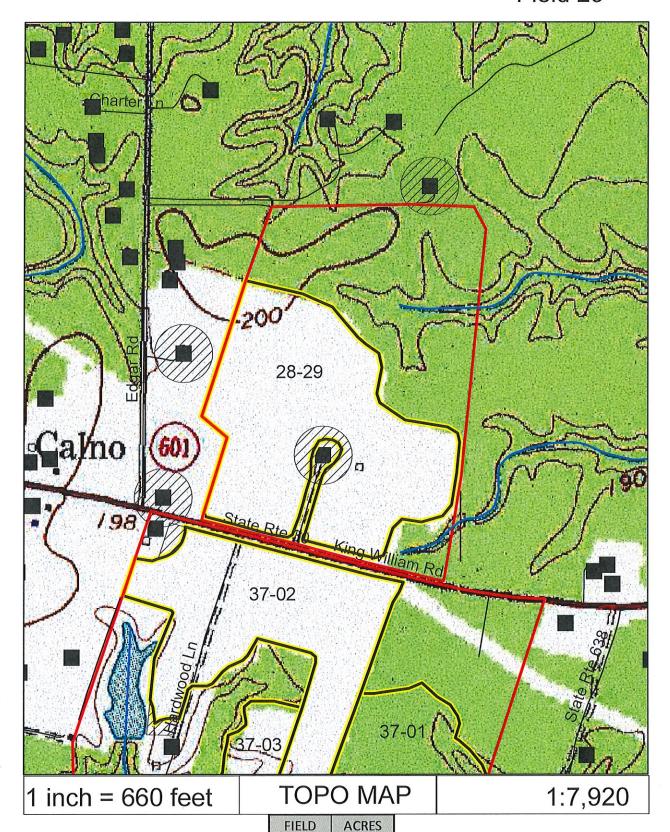


28-22

27.0



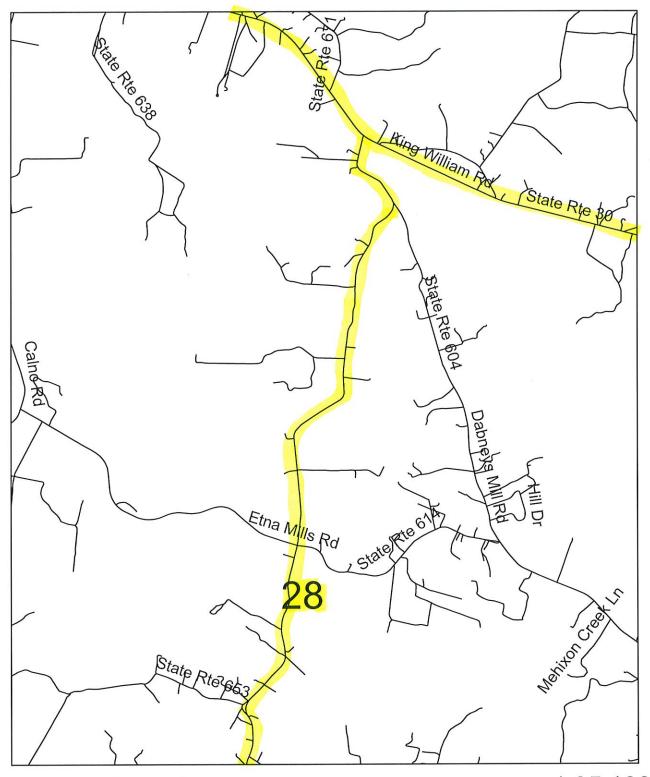
Donald Pearson KW 28 Field 29



28-29

48.0

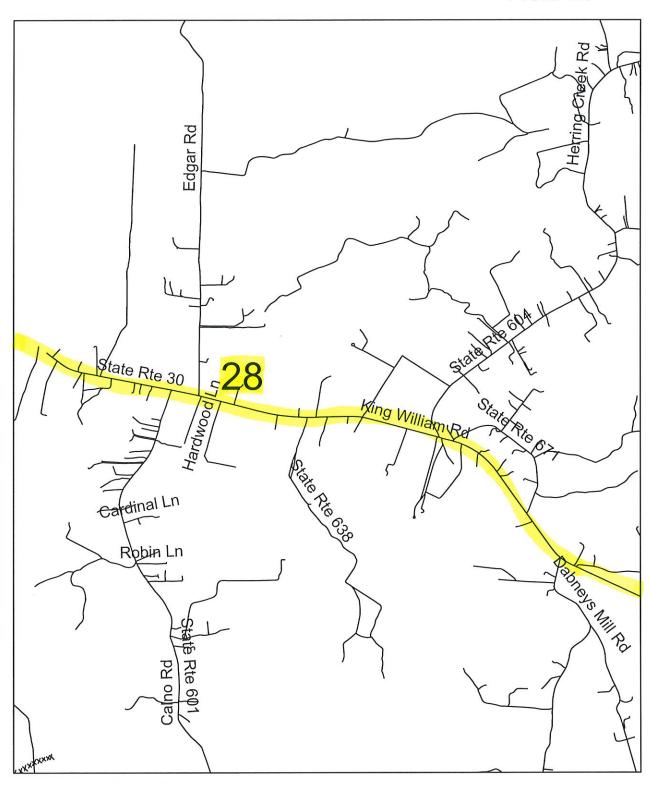






1 inch = 2,925 feet

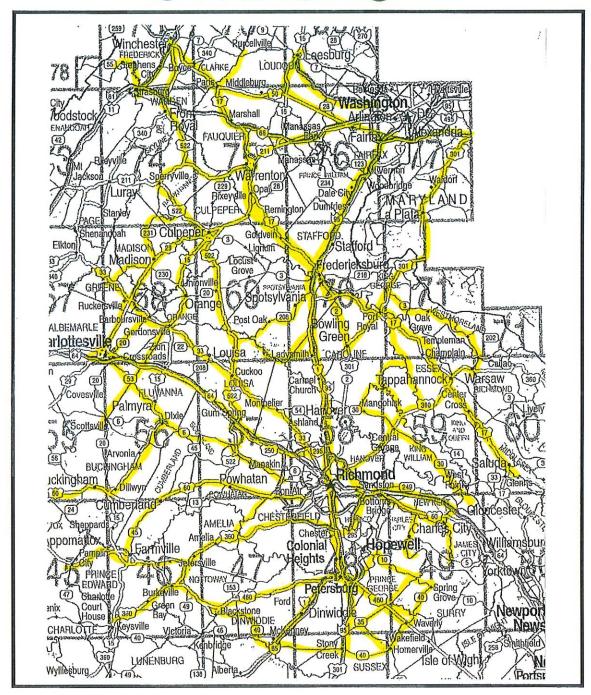
Donald Pearson KW 28 Field 29





1 inch = 2,925 feet

1:35,100





HAUL ROUTE MAP

This map highlights all major routes from the approved generators to the locations of our permitted land. The highlighted routes on our Location Map will pinpoint routes closer to the site.